Oracle® Communications Diameter Signaling Router

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DSR/SDS NOAM Failover User's Guide

Oracle® Communications DSR/SDS NOAM Failover User's Guide.

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CAUTION: <u>Before performing a Failover on any system, please access My Oracle</u> Support (MOS) and review any Technical Service Bulletins (TSBs) that may relate to this procedure.

My Oracle Support (MOS) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Refer to APPENDIX A: Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service.

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READ SECTION 2 BEFORE ATTEMPTING ANY PROCEDURES IN THIS DOCUMENT!

1. Overview of Failover Procedures

1.1 Introduction

Although each Product maintains individual Disaster Recovery Procedures, the steps required to manually transfer functionality between a Primary and a Secondary NOAM NE is currently common to all Oracle COMCOL based products matching a 3-tier topology with an installed DR NOAM. Therefore, the intent of this document is to function as a single reference supporting both the DSR and SDS.

Currently, the DSR and SDS Disaster Recovery procedures assume that the Primary NOAM is network isolated as a perquisite to Failover. It is important to note here that the reason for network isolation is not relevant to these procedures (i.e. the loss of the NOAM NE's default router, a site power outage or the site being underwater due to flooding all look the same to the rest of the topology).

It should also be noted that this document goes a step further than just addressing Disaster Recovery procedures in that it also offers the methodology required to perform a "graceful" Failover where the Primary NOAM is not network isolated and no outage scenario exist.

1.2 References

- [1] 3-Tier NOAM Failover, MO008266
- [2] DSR Disaster Recovery User's Guide
- [3] SDS Disaster Recovery User's Guide

1.3 Acronyms

Acronym	Meaning	
CLI	Command Line Interface	
DR	Disaster Recovery	
DSR	Diameter Signaling Router	
GUI	Graphical User Interface	
NE	Network Element	
NOAM (or NOAMP)	Network Operations, Administration, Maintenance and Provisioning	
SDS	Subscriber Database Server	
VIP	Virtual IP	
ХМІ	eXternal Management Interface	

1.4 Required Materials

No physical materials are required for this procedure. However, the user must have access to an "Administrator" level account in the NOAM GUI and "root" access to both the Primary and Disaster Recovery servers CLI.

1.5 How to use this Document

When executing this document, there are a few points which help to ensure that the user understands the author's intent. These points are as follows;

- 1) Before beginning a procedure, completely read the instructional text (it will appear immediately after the Section heading for each procedure) and all associated procedural WARNINGS or NOTES.
- 2) Before execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS or NOTES.

If a procedural STEP fails to execute successfully, **STOP** and **My Oracle Support (MOS)** for assistance before attempting to continue. Refer to **APPENDIX A:** Accessing My Oracle Support (MOS), for more information on contacting Oracle Customer Service.

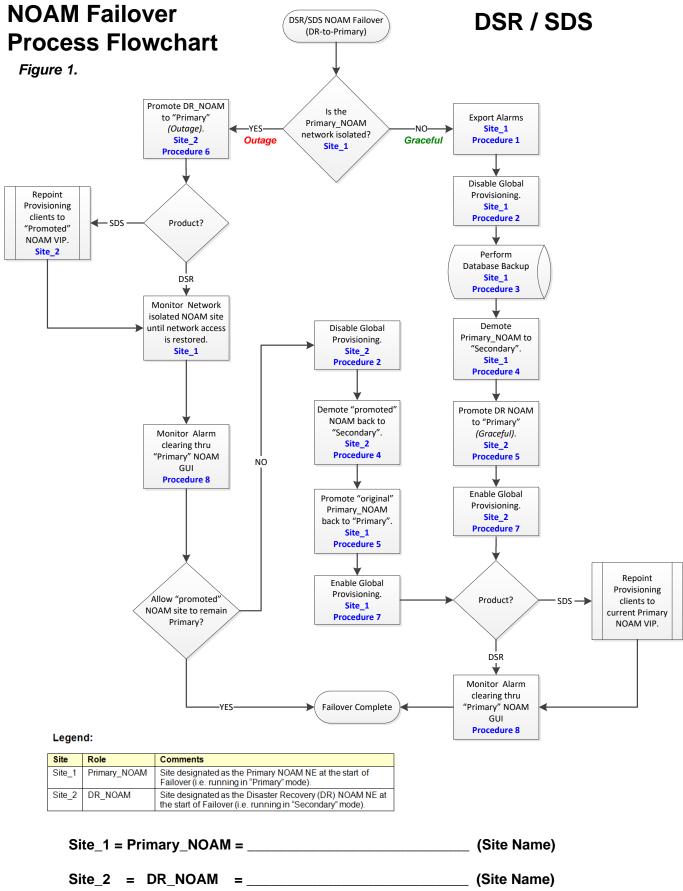


2. DSR / SDS NOAM Failover Process Flow Chart:

This document supports NOAM Failover for DSR/SDS 8.6.0.0.0 releases only (i.e. COMCOL 7.5).

The flowchart on the following page (*Figure 1*) is intended to act as the core Procedure for DSR / SDS NOAM Failover.

- Executing to the flowchart, the user should execute all Procedures in this document as subroutines in a program (*i.e. always returning to the flowchart after executing a called out procedure*).
- After completing a "called out" Procedure, never continue on to the next Procedure unless directed to do so based on the logic trail followed from the flowchart in "*Figure 1*".
- The user should understand that any NOAM NE may function as the "Primary" or the "Secondary" (*Disaster Recovery mode*). Do not confuse site names or designations with the actual functional state of the NOAM NE. Just because "DRNO" may be part of a NOAM server's hostname does not mean that that server is currently running in Disaster Recovery mode (i.e. Secondary).
- Before starting this procedure, it is strongly suggested that the user print out *Figure 1* and write in the Primary (Site_1) and Disaster Recovery (Site_2) site names in the space provided (see detailed description in *Figure 1* Legend).





3. List of Procedures

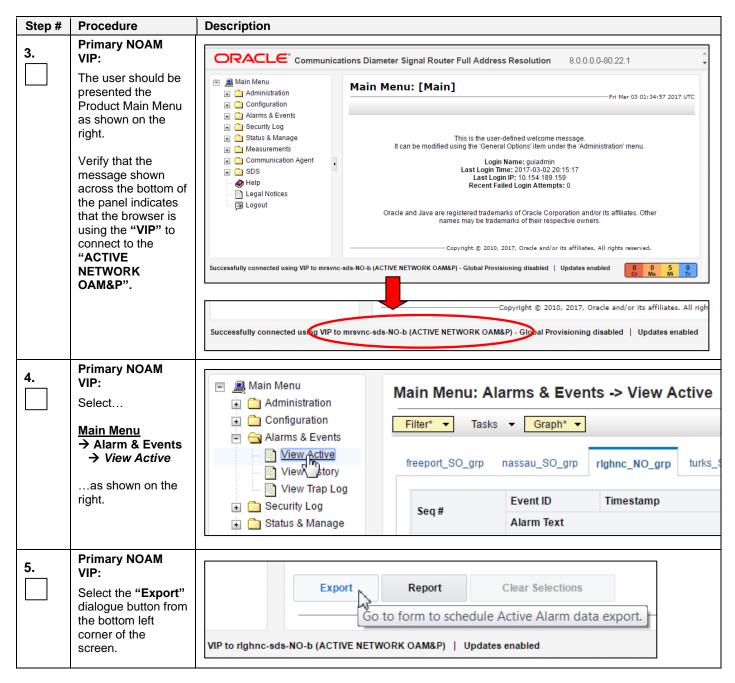
Procedure	Procedure Title	
Procedure 1	Procedure 1: Export Alarms at the Active NOAM [Site_1]	9
Procedure 2	Disable Global Provisioning / PDB Relay Verification [Site_1]	14
Procedure 3	Database Backup [Site_1]	20
Procedure 4	Demoting the Active NOAM from Primary to Secondary [Site_1]	25
Procedure 5	Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]	32
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4. Pre-Failover Procedures

4.1 Exporting Alarms

Procedure 1: Export Alarms at the Active NOAM [Site_1]

Step #	Procedure	Description		
This proc	cedure provides instruct	ions on exporting alarms at the Primary Active NOAM.		
Check of	ff ($$ each step as it is c	ompleted. Boxes have been provided for this purpose under each step number.		
IF ANY S		DURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.		
1.	Primary NOAM VIP: 1) Launch an HTML5 compliant	x		
	browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active	There is a problem with this website's security certificate. The security certificate presented by this website was issued for a different website's address.		
	NOAM site.	The security certificate presented by this website was issued for a different website's address. The security certificate presented by this website was not issued by a trusted certificate authority.		
	2) If a Certificate Error is received, click on the link	Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.		
	which states	We recommend that you close this webpage and do not continue to this website.		
	"Continue to this	Click here to close this webpage.		
	website (not recommended)."	Sontinue to this website (not recommended).		
		More information		
2.	Primary NOAM VIP: The user should be presented the login screen shown on the right. Login to the GUI using a User account with Administrator privileges.	More information CORRACLE® More Address of the state of		



Step #	Procedure	Description		
6.	Primary NOAM VIP: Click the "Ok" button at the bottom	Main Menu: Alarms & Events -> View Active [Export]		
	of the screen.	Attribute Value	Description	
		Export Frequency © Once Fifteen Minutes Hourly Daily Weekly	Select how often the data will be written to provisioning is enabled. [Default: Once.]	
		Task Name * APDE Alarm Export	Periodic export task name. [Required. The must be an alpha character or a number.] [,	
		Description	Periodic export task description. [Optional. The last character must be an alpha chara	
		Filename Prefix	Export filename prefix. Characters to prepe	
		Minute 0	Select the minute of each hour when the defield displays the minute of the first transfer	
		Time of Day 12:00 AM	Select the time of day when the data will be with AM/PM.]	
		 Sunday Monday Tuesday Day of Week Wednesday Thursday Friday Saturday 	Select the day of week when the data will t	
7.	Primary NOAM VIP:	Main Menu: Alarms & Events -> View Active		
	The name of the exported Alarms	Filter* Tasks		
	CSV file will appear in the banner under the " Tasks " heading at the top of the right panel.	Tasks Tasks freeport_S(ID Hostname Name Task St 9169 rlghnc-sds-NO-b APDE Alarm Export complete	Alarma 20170208 184416	
	NOTE: Depending on the product version, the user may have to click on the " Tasks " heading in the banner in order to see the output dialogue box.	4	,	

Step #	Procedure	Description		
8.	Primary NOAM VIP: Record the filename	Example: Alarms_ <yyyymmdd> - <hhmmss> - <timezone>_<task_id>.csv.gz</task_id></timezone></hhmmss></yyyymmdd>		
	of Alarms CSV file generated in the space provided to the right.			
	NOTE: Depending on the product version, the file suffix may vary (e.g. csv, csv.gz, etc.).	csv.gz		
9.	Primary NOAM VIP:			
	Select the "Report"	Export Report Clear Selections		
	dialogue button from the bottom left	Generate a report of the selected		
	corner of the screen.	VIP to righnc-sds-NO-b (ACTIVE NETWORK OAM&P) Updates enabled		
10. Primary NOAM VIP: 1) An "Alarms & Events" Report will		Main Menu: Alarms & Events -> View Active [Report]		
	be generated in the right panel displaying all Active alarms.	Main Menu: Alarms & Events -> Vie Thu Mar 09 13:19:59 20		
	2) Select the "Save" dialogue button from the bottom/middle of the right panel.	TIMESTAMP: 2017-03-09 13:19:48.034 UTC NETWORK_ELEMENT: NO_RLGHNC SERVER: rlghnc-sds-NO-b SEQ_NUM: 5409 EVENT_NUMBER: 32500 SEVERITY: MINOR PRODUCT: TPD PROCESS: cmplatalarm TYPE: PLAT INSTANCE: hrFSMountPoint=/var hrStorageDescr=/dev NAME: Server Disk Space Shortage Warning		
		DESCR: Server Disk Space Shortage Warning ERR_INFO: GN_WARNING/WRN Platform detected an error condition [^^ Additional details captured in /var/TKLC/log/sysche ^^ [7798:cmplatalarm.cxx:200]		

Step #	Procedure	Description
11.	Primary NOAM	
	VIP:	
	Depending on the	UTC.txt from 10.75.160.132? Open Save Cancel ×
	web browser, a " Save" file	143 ²
	confirmation pop-up	
	box may appear on	Opening ActiveAlarmsReport_2017Mar09_133310_UTC.txt
	the screen at this	You have chosen to open:
	time (some	ActiveAlarmsReport_2017Mar09_133310_UTC.txt
	examples are shown to the right).	which is: Text Document (561 bytes)
	J	from: https://10.75.160.132
	If so, select and	What should Firefox do with this file?
	click the "Save / Save File" dialogue	what should Filefox do with this file?
	button on the pop-	Open with Notepad (default)
	up confirmation box.	Save File
		Do this automatically for files like this from now on.
		OK Cancel
	Primary NOAM	
12.	VIP:	💽 Save As
	Select a directory on	Search Desktop >
	the local disk drive	
	to store the Active	Organize ▼ New folder
	<i>"Alarms & Events"</i> <i>Report</i> file and click	A 🌟 Favorites 🚔 🎇 Libraries
	the "Save" dialogue	Desktop
	button.	Downloads 🔍 Network
		Uropbox Dropbox
		S Recent Places Oracle Cloud
		resolution.txt
		⊿ 🔟 Desktop
		▲ (iii) Libraries
		Documents
		D 🕹 Music
		> S Pictures
		▷ 🗸 Videos
		File name: ActiveAlarmsReport_2017Mar09_134822_UTC.txt
		Save as type: Text Document
		Hide Folders Save Cancel
	Т	This Procedure has been completed. Return to Figure 1.

4.2 Disable Global Provisioning / PDB Relay Verification

Procedure 2: Disable Global Provisioning / PDB Relay Verification [Site_1]

Step#	Procedure	Description		
This proc	cedure provides instruct	ions on "Disabling Global Provisioning" at the Primary NOAM GUI.		
Check of	Check off ($$) each step as it is completed. Boxes have been provided for this purpose under each step number.			
IF ANY S		DURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.		
1.	Primary NOAM VIP: 1) Launch an	Certificate Error: Navigation ×		
	HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.	X Image: Security control of the securety control of the security control of the secu		
	2) If a Certificate Error is received, click on the link	Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.		
	which states	We recommend that you close this webpage and do not continue to this website.		
	"Continue to this website (not	Click here to close this webpage.		
	recommended)."	Continue to this website (not recommended).		
		More information		
2.	Primary NOAM VIP: The user should be presented the login screen shown on the right. Login to the GUI using a User account with Administrator privileges.	More information Coracle System Login Wed Mar 1 18:53:06 2017 UTC Log In Enter your username and password to log in Username: guiadmin Password: Change password Change password Log In We to the Oracle System Login. We to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited.		

	Description	Procedure	Step#
tions Diameter Signal Router Full Address Resolution 8.0.0.0.80.22.1	Primary NOAM VIP:	3.	
Main Menu: [Main] Wed Mar 01 19:03:11 2017 UTC	Main Menu Administration Configuration Alarms & Events Security Log	The user should be presented the Product Main Menu as shown on the right.	
This is the user-defined welcome message. It can be modified using the 'General Options' item under the 'Administration' menu. Login Name: guiadmin Last Login Time: 2017-03-01 17:03:04 Last Login IP: 10:75.9:98 Recent Failed Login Attempts: 0	 Status & Manage Measurements Communication Agent SDS Help Legal Notices Logout 	Verify that the message shown across the bottom of the panel indicates that the browser is using the "VIP " to connect to the "ACTIVE	
Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2017, Oracle and/or its affiliates. All rights reserved. ids-NO-b (ACTIVE NETWORK OAM&P) Updates enabled P to righnc-sds-NO-b (ACTIVE NETWORK OAM&P)		"ACTIVE NETWORK OAM&P".	
Login Name: Last Login Time: 201 Last Login PP: Recent Failed Logi Dracle and Java are registered trademarks of Or names may be trademarks of Copyright © 2010,	SDS Help Legal Notices Cogout	across the bottom of the panel indicates that the browser is using the "VIP" to connect to the "ACTIVE NETWORK	

Step#	Procedure	Description
4.	Primary NOAM VIP: Disable PDB Relay.	Go to Configurations -> Options Uncheck PDB Relay Enabled option box.
	Relay. Main Menu → Configurations → Options as shown on the right.	Uncheck PDB Relay Enabled option box.
		The following confirmation message is received: Main Menu: SDS -> Configuration -> Options Info Info Inf

Step#	Procedure	Description			
5.	Primary NOAM VIP:	Main Menu	Main Menu: Sta	itus & Manage	-> Database
	Select	Configuration			
	<u>Main Menu</u> ➔ Status & Manage	Alarms & Events	Network Element	Server	Role
	→ Database	Network Elements	SDS_SO_Nassau	nassau-dp-1	MP
	as shown on the	Server	SDS_SO_Freeport	freeport-sds-so-a	System OAM
	right.	HA	SDS_SO_Nassau	nassau-sds-so-a	System OAM
			NO_MRSVNC	mrsvnc-sds-NO-b	Network OAM&P
		Processes	NO_RLGHNC	rlghnc-sds-NO-a	Network OAM&P
		🗈 🧰 Tasks	SDS_SO_Turks	turks-dp-1	MP
		Files	SDS_SO_Freeport	freeport-dp-1	MP
		📄 🧰 Measurements			
6.	Primary NOAM VIP: 1) Select the "Disable Provisioning" dialogue button located at the bottom of the right panel. 2) Click "OK" on the pop-up confirmation dialogue box. Primary NOAM	VIP to righnc-sds-NO-b (ACTIVE NETWORK OA	Report Disable p Are you s Preve	60.132 says: orovisioning. sure? ent this page from creatir ок	
7.	VIP: A Warning banner	Main Menu: Status & Man	age -> Databas	e	
	message should appear indicating	Filter* ▼ Warning ▼ Info* ▼	Tasks 🔻		
	that "Global	Warning			8
	Provisioning has been manually disabled".	Network Ele	ode 002] - Global provis	sioning has been mar	
	NOTE: Event(s) 10008 will appear at	SDS_SO_Freeport	freeport-dp-1		MP
	this time and can be safely ignored.				
C	 FOR DSR SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS. FOR SDS SYSTEMS ONLY, CONTINUE WITH STEP 8 OF THIS PROCEDURE. 			O FIGURE 1	

Step#	Procedure	Description
8.	SDS Systems Only (Steps 8 - 15): Primary NOAM VIP: 1) Access the command prompt (CLI). 2) Log into the server as the "admusr" user. NOTE: The	rlghnc-sds-NO-b login: admusr Password: <admusr_password></admusr_password>
	password will not appear on the screen as the characters are typed.	
9.	Primary NOAM VIP: Output similar to that shown on the right will appear as the server returns to a command prompt.	*** TRUNCATED OUTPUT *** RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent- gui:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds PRODPATH=/opt/comcol/prod [admusr@rlghnc-sds-NO-b ~]\$
10.	Primary NOAM VIP: Confirm that you are connected to the Primary Active NOAM Server which will indicated by an entry showing "VIP Active".	[admusr@rlghnc-sds-NO-b ~]\$ hostname rlghnc-sds-NO-b [admusr@rlghnc-sds-NO-b ~]\$ ha.mystate -i grep VIP VIP Act/Act rlghnc-sds-NO-b 0 0302:235786.946 [admusr@rlghnc-sds-NO-b ~]\$
11.	Primary NOAM VIP: Verify the value for pdbRelayEnabled.	[admusr@rlghnc-sds-NO-b ~]\$ iqt -zhp -fvalue ProvOptions where "var='pdbRelayEnabled'" TRUE [admusr@rlghnc-sds-NO-b ~]\$
C	RETURN T	UE = <mark>FALSE</mark> , THEN THIS PROCEDURE HAS BEEN COMPLETED. <mark>0 FIGURE 1</mark> FOR NEXT STEPS. .UE = <mark>TRUE</mark> , CONTINUE WITH <mark>STEP 12</mark> OF THIS PROCEDURE.
12.	Primary NOAM VIP: Retrieve the pdbRelay timestamp.	[admusr@rlghnc-sds-NO-b ~]\$ iqt -zhp -fvalue ProvOptions where "var='pdbRelayMsgLogTimeStamp'" 1524776142883 [admusr@rlghnc-sds-NO-b ~]\$
13.	Primary NOAM VIP: Record the value for the pdbRelay timestamp retrieved in the previous step.	pdbRelayMsgLogTimeStamp:

Step#	Procedure	Description						
C	• WAIT 30 SI	ECONDS BEFORE EXECUTING THE NEXT STEP.						
14.	Primary NOAM VIP:	[admusr@rlghnc-sds-NO-b ~]\$ iqt -zhp -fvalue ProvOptions where "var='pdbRelayMsgLogTimeStamp'"						
	Retrieve the pdbRelay timestamp again.	1524776142883 [admusr@rlghnc-sds-NO-b ~]\$						
15.	Primary NOAM VIP:	pdbRelayMsgLogTimeStamp:						
	Record the value for the pdbRelay timestamp retrieved in the							
	previous step.							
	 VERIFY THAT THE TIMESTAMPS RECORDED IN STEPS 13 AND 15 OF THIS PROCEDURE ARE AN EXACT MATCH. IF THE VALUES DO NOT MATCH, REPEAT STEPS 12 THRU 15. 							
	DO NOT RETURN TO FIGURE 1 UNTIL TWO MATCHING TIMESTAMPS ARE RECORDED.							
	DO NOT RETORIN TO FIGURE I ONTIL TWO MATCHING TIMESTAMPS ARE RECORDED.							
		his Procedure has been completed. Return to Figure 1.						

4.3 Database Backup

Procedure 3: Database Backup [Site_1]

Step#	Procedure	Description
This proc	cedure provides instructior	is on performing database backup at the Primary Active NOAM.
Check of	ff ($m{4}$) each step as it is con	npleted. Boxes have been provided for this purpose under each step number.
IF ANY S		RE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.
1.	Primary NOAM VIP:	The state of the same former at the state of
	1) Launch an HTML5 compliant browser and	← → https://10.75.160.132/ P - ♥ C Certificate Error: Navigation ×
	connect to the XMI	x
	Virtual IP address (VIP) assigned to	There is a problem with this website's security certificate.
	Primary Active NOAM site.	
	2) If a Certificate Error	The security certificate presented by this website was issued for a different website's address. The security certificate presented by this website was not issued by a trusted certificate authority.
	is received, click on the link which states	Security certificate problems may indicate an attempt to fool you or intercept any data you send to the
	"Continue to this	server.
	website (not	We recommend that you close this webpage and do not continue to this website.
	recommended)."	Click here to close this webpage.
		Continue to this website (not recommended).
2.	Primary NOAM VIP:	
	The user should be presented the login	ORACLE
	screen shown on the	
	right.	Oracle System Login Wed Mar 1 18:53:06 2017 UTC
	Login to the GUI using a User account with	
	Administrator privileges.	Log In Enter your username and password to log in
	P	Username: guiadmin
		Password: •••••
		Change password
		Log In
		Welcome to the Oracle System Login.
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details.
		Unauthorized access is prohibited.

Step#	Procedure	Description						
3.	Primary NOAM VIP: The user should be presented the Product Main Menu as shown on the right.	Communications Diameter Signal Router Full Address Resolution 8.0.0.0-80.22.						
	Verify that the message shown across the bottom of the panel indicates that the browser is using the "VIP" to connect to the Active NOAM server (hostname) on the "ACTIVE NETWORK OAM&P" NE.	 Configuration Alarms & Events Security Log Status & Manage Measurements Communication Agent SDS Help Legal Notices I Legal Notices Logion Variant Cogout 						
		Copyright © 2010, 2017, Oracle and/or its affiliates. All rights reserved. Successfully connected using VIP to righnc-sds-NO-b (ACTIVE NETWORK OAM&P) Updates enabled Successfully connected using VIP to righnc-sds-NO-b (ACTIVE NETWORK OAM&P) Updates enabled						
4.	Primary NOAM VIP: Select <u>Main Menu</u> → Status & Manage → Database as shown on the right.	 Main Menu Administration Configuration Alarms & Events Security Log Status & Manage Network Elements 						
		Server SDS_SO_Freeport freeport-dp-1 MP HA SDS_SO_Freeport freeport-dp-1 MP Database SDS_SO_Freeport freeport-sds-so-b System OAM SDS_SO_Turks turks-sds-so-a System OAM Processes NO_MRSVNC mrsvnc-sds-NO-a Network OAM& Tasks NO_RLGHNC righnc-sds-NO-a Network OAM& SDS_SO_Nassau nassau-dp-2 MP						

Step#	Procedure	Description								
5.	Primary NOAM VIP:									
5 .	1) Using the cursor, select the row	Main Menu: Status & Manage -> Database								
	containing the hostname of the Active NOAM server	Filter* - Warning	r ▼ Info* ▼ Ta	asks 🔻						
	(previously identified in Step 3 of this	Network Element	Server	Role	OAM Max HA Role	Application Max HA Role				
	procedure).	NO_MRSVNC	mrsvnc-sds-NO-a	Network OAM&P	Standby	N/A				
	2) Then click the	NO_MRSVNC	mrsvnc-sds-NO-b	Network OAM&P	Active	N/A				
	" Backup " dialogue button in the bottom of	NO_RLGHNC	rlghnc-sds-NO-b	Network OAM&P	Active	N/A				
	the right panel.	NO_RLGHNC	rlghnc-sds-NO-a	Network OAM&P	Standby	N/A				
		NO_RLGHNC	rlghnc-sds-QS	Query Server	Observer	N/A				
		SDS_SO_Freeport	freeport-dp-1	MP	Active	N/A				
		SDS_SO_Freeport	freenort-sds-so-h	System OAM	Standby	N/A				
		Enable Provisioning	Report Inhibit/All	ow Replication Bac	ckup Compa	re Restore.				
					2 ~~					
					_					
6.	Primary NOAM VIP:									
	The user will be	Main Menu: Statu	ıs & Manage -> D)atabase <mark>[B</mark> acku	p]					
	presented with the Database [Backup]									
	screen.									
		Database Backup								
		Field	Value							
		Server: rlghnc-sds-NO-	b							
			Provisioning							
		Select data for backup	Configuration							
			🔵 gzip							
		Compression *	 bzip2 none 							
			- none							
		Anabias Norma t								
		Archive Name *	Backup.sds.rlghnc-sds-NO-b.ProvisioningAndConfiguratio							
		Comment								
	1	Ok Cancel								

EXECUTE THIS STEP FOR SDS VSTEMS ONLYIN Main Menu: Status & Manage -> Database [Backup] Primary NOAM VIP: 1) Uncheck the checkbox is selected. Database Backup 2) Enter a comment to reflect the reason for the manual backup. Select data for backup of physioning select data for backup of physioning the comment field. 3) Click "Ok" dialogue button. Select data for backup of physioning select data for backup of physioning NETWORK of none 8. EXECUTE THIS STEP FOR DSR SYSTEMS ONLYIN Primary NOAM VIP: 1) The Provisioning checkbox cannot baselected. Main Menu: Status & Manage -> Database [Backup] Info checkbox is selected. Info checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in checkbox is selected. Main Menu: Status & Manage -> Database [Backup] Info checkbox is selected. Info checkbox is selected. 3) Click "Ok" dialogue button. Select data for backup comment field. 3) Click "Ok" dialogue button. Compression * comment field. 3) Click "Ok" dialogue button. Compression * comment field.	Step#	Procedure	Description				
Archive Name Main Menu: Status & Manage -> Database [Backup] Primary NOAM VIP: 1) Uncheck the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup. Database Backup Server: righnc-sds-No-b 1 3) Click "Ok" dialogue button. 210 B. EXECUTE THIS STEP FOR DSR SYSTEMS ONL YII Primary NOAM VIP: 1 1) The Provisioning checkbox is selected. 210 2) Enter a comment to reflect the reason for the manual backup. 210 B. EXECUTE THIS STEP FOR DSR SYSTEMS ONL YII Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup. Main Menu: Status & Manage -> Database [Backup] Field Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the formanual backup. Select data for back for only selection on figuration Select data for back for once button. 0 tabase Backup Select data for back for once button. 0 tabase Backup Select data for back for once button. 0 tabase Backup	-						
B. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!!! Primary NOAM VIP: 1) The Provisioning checkbox is selected. B. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!!! Primary NOAM VIP: 1) The Provisioning checkbox is selected. B. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!!! Primary NOAM VIP: 1) The Provisioning checkbox is selected. Select data for backup Database Backup Select data for backup Inter a comment to reflect the reason for the manual backup in the comment field. Solution. Select data for backup dar.fighnc-dsr-NO-b. Provisioning NETWORK (compression * 0 bip2 Select data for backup dar.fighnc-dsr-NO-b. Provisioning NETWORK (compression * 0 bip2 Select data for backup dar.fighnc-dsr-NO-b. Provisioning NETWORK (compression * 0 bip2 Select data for			Main Menu: Status & Manage -> Database [Backup]				
Configuration checkbox is selected. Database Backup 2) Enter a comment to reflect the reason for the manual backup in the comment field. So Click "Ok" dialogue button. 3) Click "Ok" dialogue button. gzip compression * 8. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!!! Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. a) Click "Ok" dialogue button. Main Menu: Status & Manage -> Database [Backup] Field Value Select data for backup in the comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button.			Info* II 🗸				
the Provisioning checkbox is selected. Prield Value 2) Enter a comment to reflect the reason for the manual backup in the comment field. Select data for backup in the comment field. Select data for backup in the comment field. 3) Click "Ok" dialogue button. Other actions in the compression * Other actions in the compression * Other actions in the compression * 8. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!!! Main Menu: Status & Manage -> Database [Backup] Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. Value a) Click "Ok" dialogue button. Select data for backup * Other actions in the comment field. 3) Click "Ok" dialogue button. Other acomment to reflect the reason for the manual backup in the comment field. Other Select data for backup * 3) Click "Ok" dialogue button. Other acomment to reflect the reason for the manual backup in the comment field. Other Select data for backup dir, right dialogue button.		Configuration	Database Backup				
 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button. 3) Click "Ok" dialogue button. 3) Click "Ok" dialogue button. 8. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!! Primary NOAM VIP: 1) The Provisioning the comment to reflect the reason for the manual backup in the comment field. a) Click "Ok" dialogue button. B. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!! Difference of the comment to reflect the reason for the manual backup in the comment field. a) Click "Ok" dialogue button. 		the Provisioning					
 3) Click "Ok" dialogue button. 3) Click "Ok" dialogue button. Compression * Backup.sds.rlghnc-sds-NO-b. Provisioning.NETWORK_Generation and the selected on DSR. Verify that the Configuration checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the remanual backup in the comment field. 3) Click "Ok" dialogue button. 		2) Enter a comment to reflect the reason for the manual backup in	Select data for backup				
 B. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!! Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the comment field. 3) Click "Ok" dialogue button. 		3) Click "Ok" dialogue	Compression*				
 B. EXECUTE THIS STEP FOR DSR SYSTEMS ONLY!! Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button. 			Archive Name * Backup.sds.rlghnc-sds-NO-b.Provisioning.NETWORK_				
 B. EXECUTE THIS STEP FOR DSR SYSTEMS ONL Y!! Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button. 							
 FOR DSR SYSTEMS ONLY!!! Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button. Main Menu: Status & Manage -> Database [Backup] Info* • Database Backup Select data for backup Select data for backup gzip Compression * Backup.dsr.rlghnc-dsr-NO-b.Provisioning.NETWORK_C			Ok Cancel				
Non Dark Strends ONL Y!!! Primary NOAM VIP: 1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button. Field Value Select data for back p Povisioning	•	EXECUTE THIS STEP					
1) The Provisioning checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. Database Backup 2) Enter a comment to reflect the reason for the manual backup in the comment field. Select data for back p c nfiguration 3) Click "Ok" dialogue button. gzip Compression* bzip2 none none	5.		Main Menu: Status & Manage -> Database [Backup]				
checkbox cannot be selected on DSR. Verify that the Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button. Field Value Server: rlghnc-dsr-NO-b 9 gzip Compression* 9 bzip2 none Archive Name* Backup.dsr.rlghnc-dsr-NO-b.Provisioning.NETWORK_Compression		Primary NOAM VIP:	Info*				
Verify that the Configuration checkbox is selected. Field Value 2) Enter a comment to reflect the reason for the manual backup in the comment field. Select data for back p Provisioning 3) Click "Ok" dialogue button. Compression* gzip Archive Name* Backup.dsr.rlghnc-dsr-NO-b.Provisioning.NETWORK_C		checkbox cannot be	Database Backup				
Configuration checkbox is selected. 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button. Select data for backup @ Configuration Image: Compression *			Field Value				
 2) Enter a comment to reflect the reason for the manual backup in the comment field. 3) Click "Ok" dialogue button. Select data for back n Provisioning Qzip Compression* gzip bzip2 none Archive Name* Backup. dsr.rlghnc-dsr-NO-b.Provisioning.NETWORK_C		Configuration	Server: righnc- dsr-NO-b				
the comment field. 3) Click "Ok" dialogue button. Compression* Output Ou		2) Enter a comment to reflect the reason for	Select data for backup				
		the comment field. 3) Click " Ok " dialogue	Compression*				
Comment Pre-Failover 2			Archive Name * Backup.dsr.rlghnc-dsr-NO-b.Provisioning.NETWORK_0				
3			Comment Pre-Failover 2				
Ok Cancel			N N				

Step#	Procedure	De	scriptio	on						
-	Primary NOAM VIP:									
9.	Click on the Tasks tab to verify that a new	na	-	atabase						
	"Database backup	-	Tasks*	*						
	from GUI" task has		Tasks	1						×
	been created.	Cod	D	Hostname	Name	Task State	Details		Progress	
			9392	rlghnc-sds-NO-b	Database backup from GUI	completed	Provisioning		5%	
			4	ssau-dp-2	ME	D		Active	N/A	•
			IId	ssau-up-z	IVI	F		Active	IN/A	
10.	Primary NOAM VIP:									
	Use the Tasks tab to monitor the status in the " Progress "	na	ige -> D	atabase						
	column until it shows "100%".	•	Tasks*	•						
			Tasks	1					\frown	8
	NOTE: Depending on	Cod	D	Hostname	Name	Task State	Details		Progress	
	NOTE: Depending on the release version,	_	9392	rlghnc-sds-NO-b	Database backup from GUI	completed	Provisioning		100%	
	the User may have to								\smile	
	periodically click the [Status & Manage →									
	Database] menu									
	option in order for the								_	
	information on the Tasks tab to refresh		na	issau-dp-2	M	P		Active	N/A	-
	and show real-time									
	status.									

5. Failover Procedures

5.1 Demoting the Active NOAM from Primary to Secondary

Procedure 4: Demoting the Active NOAM from Primary to Secondary [Site_1]

Step#	Procedure	Description
This proce	edure provides instructi	ions on Stopping the Application Software on the Primary and DR NOAM.
Check off	$(\mathbf{\sqrt{)}}$ each step as it is co	ompleted. Boxes have been provided for this purpose under each step number.
IF ANY S	TEP IN THIS PROCED	URE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.
1.	Primary NOAM VIP: 1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site. 2) If a Certificate Error is received, click on the link which states "Continue to this wobsite (not	 Integrity (10.75.160.132) Image: Certificate Error: Navigation × Image: Certifi
	website (not recommended)."	Solution \mathbb{S} Continue to this website (not recommended). \mathbb{O} More information
2.	Primary NOAM VIP: The user should be presented the login screen shown on the right. Login to the GUI using a User account with Administrator privileges.	Oracle System Login Wed Mar 118:53:06 2017 UTC Image: Comparison of the comp

Step#	ep# Procedure Description							
3.	Primary NOAM VIP:		nuni	ications Diameter Signal Router Fu	III Address Re	solution 8.0	0.0.0.0-80.22.1 🗘	
	The user should be presented the Product Main	Main Menu Main Menu Configuration		Main Menu: [Main]		Wed Mar 01	19:03:11 2017 UTC	
	Menu as shown on the right. Verify that the message shown across the bottom of the panel indicates that the browser is using the "VIP" to connect to the "ACTIVE NETWORK OAM&P".	Alarms & Events Security Log Status & Manage Measurements Communication Agent SDS Help Legal Notices Logout Successfully connected using VIP to righted Successfully connected using VIP to righted		This is the user-defined welcome message. It can be modified using the 'General Options' item under the 'Administration' menu. Login Name: guiadmin Last Login Time: 2017-03-01 17:03:04 Last Login IP: 10.75.9.98 Recent Failed Login Attempts: 0 Oracle and Java are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. Copyright © 2010, 2017, Oracle and/or its affiliates. All rights reserved. Inc-sds-NO-b (ACTIVE NETWORK OAM&P) Updates enabled				
4.	Primary NOAM VIP: Select Main Menu → Status & Manage → HA as shown on the right.	 Main Menu Administration Configuration Alarms & Event Security Log Status & Manage Network Elección Server 	ge	ents Rilter* • Hostname rlghnc-sds-NO-a rlghnc-sds-NO-b mrsvnc-sds-NO-a	CAM HA Role OOS Active OOS	Application HA Role N/A N/A N/A	HA Max Allowed HA Role Active Active Active	
		KPIs		mrsvnc-sds-NO-b	005	N/A	Active	

Step#	Procedure	Description						
5.	Primary NOAM VIP:			1				
	Using the information shown in the browser	Successfully con	nected using	VIP to righnc	-sds-NO-b (A	ACTIVE NETWORK (DAM&P) Updat	es enabled
	 information shown in the browser window 1) Use the Server hostname shown in the bottom banner for the "ACTIVE NETWORK OAM&P" to identify the current "Primary" NOAM site. Now that we know which NOAM site is Primary 2) Identify the Primary Standby, Secondary Active (DR) and 	NOTE	: The services the cur	Application HA Role N/A N/A N/A	me of the ary" NOA	"ACTIVE NET M site (e.g. rlgh Mate Hostname List rlghnc-sds-NO-b rlghnc-sds-NO-a mrsvnc-sds-NO-a lghnc-sds-NO-a rlghnc-sds-NO-a rlghnc-sds-NO-a	WORK OAM8	Server Role Network OAM&F Network OAM&F Network OAM&F Network OAM&F Ouery Server
6 .	"Active/Standl	<pre>! DO NOT SKIF by" states for existence of the stopped in the Site_1 = Prima</pre>	ach NOAI	I server m der specifi I (Active)	ed in Ste	ps 8 - 12 of this	s procedure.	the SW on
Record the hostnames of the Active / Standby NOAM servers at the " Primary " and " Secondary " (DR) NOAM sites in the space provided.	Site_1 = Prima Site_2 = DR_1 Site_2 = DR_2	_NOAM	(Active)	=				

Step#	Procedure	Description							
7.	Primary NOAM VIP: Select <u>Main Menu</u> → Status & Manage → Server as shown on the right.	 Main Menu Administration Configuration Alarms & Even Security Log Status & Mar Network F Network F Database 	n	Main Menu Filter* Server Hostna freeport-dp-1 freeport-dp-2 freeport-sds-soc	ime I s b-a s	Network Ele SDS_SO_Fra SDS_SO_Fra SDS_SO_Fra	ment A eeport E eeport E eeport E	Appl State	
8.	Primary NOAM VIP: Based on the information recorded in Step	Main Menu: Sta	atus & Manage	-> Server		SDS_SO_Fr		nabled	
	6 of this procedure	Server Hostname	Network Element	Appl State	Alm	DB	Reportin Status	g Proc	
	Perform the below sub-steps on the	nassau-sds-so-b	SDS_SO_Nassau	Enabled	Norm	Norm	Norm	Norm	
	Primary NOAM	rlghnc-sds-NO-a	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm	
	" Standby " Server.	rlghnc-sds-NO-b	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm	
	1) Select the	rlghnc-sds-QS	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm	
	server in the right panel (highlight will occur). 2) Click the "Stop" dialogue button in	turks-dp-1	SDS_SO_Turks	Enabled Report	Norm	Norm	Norm	Norm	
	the bottom of the right panel.	Message from webpage	an han	X					
3) Click " OK " in the pop-up confirmation dialogue box.		Are you sure you wish to stop application software on the following server(s)? rlghnc-sds-NO-a							
	NOTE: Alarms will begin to generate at this time including but not limited to Event ID(s): 10008, 10075 & 31201.		OK	Cancel					

Step#	Procedure	Description	Description						
9.	Primary NOAM VIP:	Main Menu: St	tatus & Manage	-> Server					
	After the screen refreshes, verify	Filter* -							
	that the server now shows an	Server Hostname	Network Element	Appl State	Alm	DB	Reporting Status	Proc	
	Appl State value of "Disabled"	nassau-sds-so-b	SDS_SO_Nassau	Enabled	Norm	Norm	Norm	Norm	
	and a Proc value	rlghnc-sds-NO-a	NO_RLGHNC	Disabled	Warn	Norm	Norm	Man	
	of " Man".	rlghnc-sds-NO-b	NO_RLGHNC	Enabled	Warn	Warm	Nom	Norm	
		rlghnc-sds-QS	NO_RLGHNC	Enabled	Norm	Norm	Norm	Norm	
	NOTE: Although the screen will	turks-dp-1	SDS_SO_Turks	Enabled	Norm	Norm	Norm	Norm	
	menu option for the [Main Menu: Status & Manage → Server]. Primary NOAM								
10.	VIP: "Stop" the SW on the Primary NOAM "Active" Server.	Repeat Steps 8 -	9 of this Procedure	e for the Prin	ary NOA	M "Activ	e" Server.		
11.	Primary NOAM VIP: "Stop" the SW on the DR NOAM "Standby" Server.	Repeat Steps 8 -	9 of this Procedure	e for the DR I	NOAM "S	tandby" :	Server.		
12.	Primary NOAM VIP: "Stop" the SW on the DR NOAM "Active" Server.	Repeat Steps 8 -	9 of this Procedure	e for the DR I	NOAM "A	ctive" Se	erver.		

Step#	Procedure	Description
13.	 Primary NOAM VIP: 1) Access the command prompt (CLI). 2) Log into the server as the "admusr" user. NOTE: The password will not appear on the screen as the characters are typed. 	rlghnc-sds-NO-b login: admusr Password: <admusr_password></admusr_password>
14.	Primary NOAM VIP: Output similar to that shown on the right will appear as the server returns to a command prompt.	*** TRUNCATED OUTPUT *** PRODPATH= RELEASE=8.6.0 RUNID=00 VPATH=/var/TKLC/rundb:/usr/TKLC/appworks:/usr/TKLC/awpcommon:/usr/TKLC/comagent- gui:/usr/TKLC/comagent-gui:/usr/TKLC/comagent:/usr/TKLC/sds PRODPATH=/opt/comcol/prod [admusr@rlghnc-sds-NO-b ~]\$
15.	Primary NOAM VIP: Confirm that you are connected to the Primary Active NOAM Server by verifying that the server hostname matches the entry showing "VIP Act/Act".	[admusr@rlghnc-sds-NO-b ~]\$ hostname rlghnc-sds-NO-b [admusr@rlghnc-sds-NO-b ~]\$ ha.mystate -i grep VIP VIP Acti/Act rlghnc-sds-NO-b 0 0302:235786.946 [admusr@rlghnc-sds-NO-b ~]\$
16.	Primary NOAM VIP: Verify that the current value for "myClusterRole" is "Primary".	[admusr@rlghnc-sds-NO-b ~]\$ top.myrole myNodeld=A0907.121 myParentClusters=() myClusterRole= Primary myRecognizedPrimary=A0907 myRecognizedSecondary=A1103 [admusr@rlghnc-sds-NO-b ~]\$
17.	Primary NOAM VIP: Set the value for "myClusterRole" to "Secondary".	[admusr@rlghnc-sds-NO-b ~]\$ top.setSecondary - Using my cluster: A0907 - New Secondary Timestamp: 03/03/17 00:19:07.181 - Updating To A0907.060: rlghnc-sds-NO-a - Updating To A0907.113: rlghnc-sds-QS - Updating To A0907.121: rlghnc-sds-NO-b - Updating To A1103.165: mrsvnc-sds-NO-b - Updating To A1103.223: mrsvnc-sds-NO-a [admusr@rlghnc-sds-NO-b ~]\$
18.	Primary NOAM VIP: Verify that the value for "myClusterRole" is now "Secondary".	[admusr@rlghnc-sds-NO-b ~]\$ top.myrole myNodeld=A0907.121 myParentClusters=() myClusterRole= Secondary myRecognizedPrimary=A0907 myRecognizedSecondary=Unknown [admusr@rlghnc-sds-NO-b ~]\$

Step#	Procedure	Description			
19.	Primary NOAM VIP: Verify the current PID for the "apwSoapServer" process.	[admusr@rlghnc-sds-NO-b ~]\$ pl grep Server /946215 apwSoapServer Up 03/02 23:52:31 3 !CMNOSIGCHK=1 apwSoapServer [admusr@rlghnc-sds-NO-b ~]\$			
20.	Primary NOAM VIP: Restart the "apwSoapServer" process.	[admusr@rlghnc-sds-NO-b ~]\$ sudo pm.kill apwSoapServer [admusr@rlghnc-sds-NO-b ~]\$			
21.	Primary NOAM VIP: Verify that the PID for the "apwSoapServer" process has changed from the previous value shown in Step 19 of this procedure.	[admusr@rlghnc-sds-NO-b ~]\$ pl grep Server 951908 apwSoapServer Up 03/02 23:52:31 3 !CMNOSIGCHK=1 apwSoapServer [admusr@rlghnc-sds-NO-b ~]\$			
	This Procedure has been completed. Return to Figure 1.				

5.2 Promoting the DR NOAM from Secondary to Primary

5.2.1 Promoting the DR NOAM from Secondary to Primary (Graceful)

Procedure 5: Promoting the DR NOAM from Secondary to Primary (Graceful) [Site_2]

Step #	Procedure	Description			
This p	rocedure provides instructio	ns on promoting the DR NOAM from Secondary to Primary.			
Check	off ($$) each step as it is cor	mpleted. Boxes have been provided for this purpose under each step number.			
IF AN	Y STEP IN THIS PROCEDU	JRE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.			
1.	DR NOAM: 1) Access the command prompt (CLI).	Establish an SSH session to the SDS/DSR DR NOAM XMI IP address and login as admusr. msvnc-sds-NO-b login: admusr Password: <admusr_password></admusr_password>			
	2) Log into the server as the "admusr" user.				
2.	DR NOAM: Check NOAM Status	Execute this command to find the state of the server: \$ ha.mystate [admusr@msvnc-sds-NO-b ~]\$ ha.mystate			
		resourceId role node DC subResources lastUpdate			
3.	DR NOAM: Verify that the current	DbReplication Act/Act A3374.144 * 0 180712:064445.775 VIP Act/Act A3374.144 * 0 180712:064445.875 CacdProcessRes Act/Act A3374.144 * 0 180712:064445.875 CacdProcessRes Act/Act A3374.144 * 0 180712:064445.875 PDBA Process Act/Act A3374.144 * 0 180712:064445.876 PDBAUDIT_Process Act/Act A3374.144 * 0 180712:064445.876 PDBRELAY_Process Act/Act A3374.144 * 0 180712:064445.876 XDS_Process Act/Act A3374.144 * 0 180712:064445.876 XDS_Process Act/Act A3374.144 * 0 180712:064445.876 MPORT_Process Act/Act A3374.144 * 0 180712:064445.877 DFSERVER_Process Act/Act A3374.144 * 0 180711:062936.051 Execute the following commands on the Active NOAM. Iadmusr@mrsvnc-sd			
	value for " myClusterRole " is " Secondary ".	myParentClusters=() myClusterRole= Secondary myRecognizedPrimary=A1103 myRecognizedSecondary=Unknown [admusr@mrsvnc-sds-NO-b ~]\$			
4.	DR NOAM: Set the value for "myClusterRole" to "Primary".	[admusr@mrsvnc-sds-NO-b ~]\$ top.setPrimary - Using my cluster: A1103 - New Primary Timestamp: 03/03/17 00:50:40.986 - Updating To A0907.060: rlghnc-sds-NO-a - Updating To A0907.113: rlghnc-sds-QS - Updating To A0907.121: rlghnc-sds-NO-b - Updating To A1103.165: mrsvnc-sds-NO-b - Updating To A1103.223: mrsvnc-sds-NO-a [admusr@mrsvnc-sds-NO-b ~]\$			
5.	DR NOAM: Verify that the value for "myClusterRole" is now "Primary".	[admusr@mrsvnc-sds-NO-b ~]\$ top.myrole myNodeld=A1103.165 myParentClusters=() myClusterRole= Primary myRecognizedPrimary=A1103 myRecognizedSecondary=A0907 [admusr@mrsvnc-sds-NO-b ~]\$			

Step #	Procedure	Description						
6.	New Primary NOAM VIP (former DR): 1) Launch an HTML5 compliant browser and	Certificate Error: Navigation × x						
	connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site.	There is a problem with this website's security certificate.						
	2) If a Certificate Error is received, click on the link which states	The security certificate presented by this website was issued for a different website's address. The security certificate presented by this website was not issued by a trusted certificate authority. Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.						
	"Continue to this website (not recommended)."	server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage.						
		 Continue to this website (not recommended). More information 						
7.	New Primary NOAM VIP (former DR):	ORACLE						
	The user should be presented the login screen shown on the right.	Oracle System Login Wed Mar 1 18:53:06 2017 UTC						
	Login to the GUI using a User account with Administrator privileges.	Log In Enter your username and password to log in Username: guiadmin						
		Password:						
		Change password						
		Welcome to the Oracle System Login.						
		This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the <u>Oracle Software Web Browser Support Policy</u> for details.						
		Unauthorized access is prohibited.						
8.	New Primary NOAM VIP (former DR): Select…	Main Menu Administration Main Menu: Status & Manage -> HA						
	<u>Main Menu</u>	Configuration Filter*						
	→ Status & Manage → HA	Security Log Status & Manage Hostname OAM HA Role Application HA Role Max Allowed HA Role						
	as shown on the right.	Network Elements rlghnc-sds-NO-a OOS N/A Active						
		rlghnc-sds-NO-b Active N/A Active						
		→ ➡ D→dabase mrsvnc-sds-NO-a OOS N/A Active mrsvnc-sds-NO-b OOS N/A Active						

Step #	Procedure	Description						
9.	New Primary NOAM VIP (former DR): Using the information shown in the browser window	Successfully con	inected usin	9 VIP to mrsv	nc-sds-NO-b	(ACTIVE DR NETW	Copyright © 20)10, 2017, Oracle Jpdates enabled
	1) Use the Server hostname shown in the bottom banner for the "ACTIVE NETWORK OAM&P" to identify the current "Primary" NOAM site.	NOTE: The server hostname of the "ACTIVE NETWORK OAM&P" identifies the current "Primary" NOAM site (e.g. mrsvnc). Main Menu: Status & Manage -> HA						
	Now that we know which	Hestname	OAM HA Role	Application HA Role	Max Allowed HA Role	Mate Hostname List	Network Element	server Role
	NOAM site is Primary	rlghnc-sds-NO-a	Standby	N/A	Active	rlghnc-sds-NO-b	NO_RLGHNC	Network OAM&P
	2) Identify the Primary	rlghnc-sds-NO-b	Active	N/A	Active	rlghnc-sds-NO-a	NO_RLGHNC	Network OAM&P
	Active, Primary Standby, Secondary	mrsvnc-sds-NO-a	Standby	N/A	Active	mrsvnc-sds-NO-b	NO_MRSVNC	Network OAM&P
	Active (DR) and	mrsvnc-sds-NO-b	Active	N/A	Active	mrsvnc-sds-NO-a	NO_MRSVNC	Network OAM&P
	Secondary Standby NOAM Servers.	rlanac-sds-QS	Observer		Observer	rlghnc-sds-NO-a	NO_RLGHNC	Query Server
		lighte-sus-Q3	Observer		Observer	rlghnc-sds-NO-b	NO_REGNING	Guery Server
	######################################	" states for eac	h NOAM	server m	ust be rec			
10.		" states for eac estarted in the	ch NOAM exact oro	server m der specif	ust be rec ied in Ste	ps 12 - 16 of 1	his procedure	
10.	 "Active/Standby each server be r New Primary NOAM VIP (former DR): Based on the information identified in the previous step, record 	" states for eac	ch NOAM exact or mary_N	server m der specif OAM (A	ust be rec ied in Ste ctive)	ps 12 - 16 of f	his procedure	
10.	 "Active/Standby each server be r New Primary NOAM VIP (former DR): Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary Standby, Secondary 	states for eac estarted in the Site_1 = Pri Site_1 = Pri	ch NOAM exact or mary_N	server m der specif OAM (A OAM (S	ust be rec ied in Ste ctive)	ps 12 - 16 of f	his procedure	
10.	 "Active/Standby each server be r New Primary NOAM VIP (former DR): Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary 	Site_1 = Pri Site_2 = D	ch NOAM exact or mary_N mary_N	oAM (A OAM (S AM (A	ust be rec ied in Ste ctive) tandby) ctive)	ps 12 - 16 of f = =	his procedure	>.
10. 11.	 *Active/Standby each server be r New Primary NOAM VIP (former DR): Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers. New Primary NOAM VIP (former DR): Select Main Menu 	" states for eac estarted in the Site_1 = Pri Site_2 = C Site_2 = C Site_2 = C	ch NOAM exact ord mary_N mary_N DR_NOA DR_NOA	oAM (A OAM (S AM (A	ust be red ied in Ste ctive) tandby) ctive) tandby)	ps 12 - 16 of 1 = = = Menu: Statu	his procedure	>.
	 Primary NOAM viP (former DR): Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers. New Primary NOAM viP (former DR): Select Main Menu → Status & Manage 	" states for eac estarted in the Site_1 = Pri Site_2 = C Site_2 = C Site_2 = C	ch NOAM exact ord mary_N mary_N DR_NOA DR_NOA DR_NOA unistration guration us & Events rity Log	oAM (A OAM (S AM (A	ust be rec ied in Ste ctive) tandby) ctive) tandby) Main	ps 12 - 16 of f = = = Menu: State	his procedure	».
	 Primary NOAM vip (former DR): Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers. New Primary NOAM vip (former DR): Select Main Menu → Status & Manage → Server 	" states for eac estarted in the Site_1 = Pri Site_2 = C Site_2 = C Site_2 = C	ch NOAM exact ord mary_N mary_N DR_NOA DR_NOA DR_NOA nu nistration guration is & Events rity Log s & Manage	server m der specif OAM (A OAM (S AM (S	ust be rec ied in Ste ctive) tandby) ctive) tandby) Main Filter	ps 12 - 16 of f = = = Menu: State r Hostname N	this procedure	Appl State
	 Primary NOAM viP (former DR): Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers. New Primary NOAM viP (former DR): Select Main Menu → Status & Manage 	" states for eac estarted in the Site_1 = Pri Site_2 = C Site_2 = C Site_2 = C	ch NOAM exact ord mary_N mary_N DR_NOA DR_NOA DR_NOA DR_NOA is & Events ity Log s & Manage etwork Eleme	server m der specif OAM (A OAM (S AM (S	ust be red ied in Ste ctive) tandby) ctive) tandby) Main Filter Serve freepo	ps 12 - 16 of 1 = = = Menu: Statu * • r Hostname N vrt-dp-1 S	this procedure us & Manage etwork Element DS_SO_Freeport	Appl State
	 Primary NOAM viP (former DR): Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers. New Primary NOAM viP (former DR): Select Main Menu → Status & Manage → Server 	" states for eac estarted in the Site_1 = Pri Site_2 = C Site_2 = C Site_2 = C	ch NOAM exact ord mary_N mary_N DR_NOA DR_NOA DR_NOA DR_NOA unistration guration is & Events rity Log is & Manage etwork Elema	server m der specif OAM (A OAM (S AM (S	ust be rec ied in Ste ctive) tandby) ctive) tandby) Main Filter Serve freepo	ps 12 - 16 of 1 = = = Menu: Statu * • r Hostname N vrt-dp-1 S vrt-dp-2 S	IS & Manage	Appl State Enabled
	 Primary NOAM viP (former DR): Based on the information identified in the previous step, record the hostnames of the Primary Active, Primary Standby, Secondary Active (DR) and Secondary Standby NOAM Servers. New Primary NOAM viP (former DR): Select Main Menu → Status & Manage → Server 	" states for eac estarted in the Site_1 = Pri Site_2 = C Site_2 = C Site_2 = C	th NOAM exact ord mary_N mary_N DR_NOA DR_NOA DR_NOA DR_NOA DR_NOA s & Events rity Log s & Manage etwork Elements rity Log s & Manage	server m der specif OAM (A OAM (S AM (S	ust be rec ied in Ste ctive) tandby) ctive) tandby) Main Filter freepo freepo freepo	ps 12 - 16 of 1 = = = Menu: Statu * • • r Hostname N rt-dp-1 S rt-dp-2 S rt-sds-so-a S	this procedure us & Manage etwork Element DS_SO_Freeport	Appl State

Step #	Procedure	Description							
12.	New Primary NOAM VIP (former DR): Based on the	Main Menu: Status & Manage -> Server							
	Dased of the information recorded in Step 10 of this procedure Perform the below sub- steps on the newly promoted Primary NOAM "Active" Server (Site_2).	Filter* Info* Server Hostname Network Element Appl State Alm DB Reporting Status Proc							
		freeport-sds-so-b SDS_SO_Freeport Enabled Norm Norm Norm Norm Man mrsvnc-sds-NO-a NO_MRSVNC Disabled Warn Norm Man Man rlghnc-sds-NO-a NO_RLGHNC Disabled Warn Norm Man rlghnc-sds-NO-b NO_RLGHNC Disabled Warn Norm Man							
	1) Select the Server in the right panel (<i>highlight will occur</i>).	righnc-sds-QS NO_RLGHNC Enabled Norm Norm Norm Stop Restart Reboot NTP Sync Report 2 Restart selected server(s). Copyright © 2010, 2017, Oracle and/or its affiliates. All rights reserved.							
	 2) Click the "Restart" dialogue button in the bottom of the right panel. 3) Click "OK" in the 	Message from webpage							
	pop-up confirmation dialogue box.	Mrsvnc-sds-NÖ-b OK Cancel							
13.	New Primary NOAM VIP (former DR):	Main Menu: Status & Manage -> Server							
	After the screen refresh, verify that the server								
	now shows an Appl State value of "Enabled" and a Proc value of "Norm" .	Server Hostname Network Element Appl State Alm DB Reporting Status Proc mrsvnc-sds-NO-a NO MRSVNC Disabled Warn Norm Man							
		mrsvnc-sds-NO-a NO_MRSVNC Disabled Warn Norm Man mrsvnc-sds-NO-b NO_MRSVNC Enabled Warn Warn Norm Norm rlghnc-sds-NO-a NO_RLGHNC Disabled Warn Norm Man rlghnc-sds-NO-b NO_RLGHNC Disabled Warn Norm Man rlghnc-sds-QS NO_RLGHNC Enabled Warn Norm Norm Man							
14.	New Primary NOAM VIP (former DR): "Restart" the SW on the Primary NOAM "Standby" Server.	Repeat Steps 12 - 13 of this Procedure for the Primary NOAM "Standby" Server.							
15.	New Primary NOAM VIP (former DR): "Restart" the SW on the DR NOAM "Standby" Server.	Repeat Steps 12 - 13 of this Procedure for the DR NOAM "Standby" Server.							

Step #	Procedure	Description					
16.	New Primary NOAM VIP (former DR): "Restart" the SW on the DR NOAM "Active" Server.	Repeat Steps 12 - 13 of this Procedure for the DR NOAM "Active" Server.					
	 FOR SDS SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 FOR NEXT STEPS. FOR DSR SYSTEMS ONLY, CONTINUE WITH STEP 17 OF THIS PROCEDURE. 						
17.	DSR Systems Only (Steps 17 - 22): New Primary NOAM VIP (former DR): Identify the clusterId values for the <i>myRecognizedPrimary</i> and the <i>myRecognizedSecondar</i> <i>y</i> (e.g. Axxxx).	[admusr@dominica-dr-noam-b ~]\$ top.myrole myNodeld=A0568.058 myParentClusters=() myClusterRole=Primary myRecognizedPrimary=A0568 myRecognizedSecondary=A1667 [admusr@dominica-dr-noam-b ~]\$					
18.	New Primary NOAM VIP (former DR): Record the clusterId values for the <i>myRecognizedPrimary</i> and the <i>myRecognizedSecondar</i> <i>y</i> in the space provided.	myRecognizedPrimary (clusterId) = myRecognizedSecondary (clusterId) =					
19.	New Primary NOAM VIP (former DR): Identify which A-Level clusterId (e.g. Axxx) is located in the "HaClusterResourceCfg" table.	[admusr@dominica-dr-noam-b ~]\$ iqt -p HaClusterResourceCfg cluster resource optional A0568 DSROAM_Proc Yes C0804 DSROAM_Proc Yes C1223 DSROAM_Proc Yes C2346 DSROAM_Proc Yes C3147 DSROAM_Proc Yes C3316 DSROAM_Proc Yes [admusr@dominica-dr-noam-b ~]\$					
20.	New Primary NOAM VIP (former DR): If the A-Level clusterId located in the "HaClusterResourceCfg" table is the <i>myRecognizedPrimary</i> value recorded in Step 18 of this procedure, delete the entry as shown to the right. Otherwise, continue to the next step.	Syntax Example: \$ irem HaClusterResourceCfg where "cluster=' <myrecognizedprimary_clusterid>'" [admusr@dominica-dr-noam-b ~]\$ irem HaClusterResourceCfg where "cluster='A0568'" === deleted 1 records === [admusr@dominica-dr-noam-b ~]\$</myrecognizedprimary_clusterid>					

Step #	Procedure	Description
21.	New Primary NOAM VIP (former DR): Add an entry to the "HaClusterResourceCfg" table for the <i>myRecognizedSecondar</i> <i>y</i> value recorded in Step 18 of this procedure.	Syntax Example: \$ echo " <myrecognizedsecondary_clusterid> DSROAM_Proc Yes" iload -ha -xun -fcluster - fresource -foptional HaClusterResourceCfg [admusr@dominica-dr-noam-b ~]\$ echo "A1667 DSROAM_Proc Yes" iload -ha -xun - fcluster -fresource -foptional HaClusterResourceCfg [admusr@dominica-dr-noam-b ~]\$</myrecognizedsecondary_clusterid>
22.	New Primary NOAM VIP (former DR): Verify that the "HaClusterResourceCfg" table now displays an entry for the <i>myRecognizedSecondar</i> <i>y</i> value recorded in Step 18 of this procedure.	[admusr@dominica-dr-noam-b ~]\$ iqt -p HaClusterResourceCfg cluster resource optional A1667 DSROAM_Proc Yes C0804 DSROAM_Proc Yes C1223 DSROAM_Proc Yes C2346 DSROAM_Proc Yes C3147 DSROAM_Proc Yes C3316 DSROAM_Proc Yes [admusr@dominica-dr-noam-b ~]\$
	Th	is Procedure has been completed. Return to Figure 1.

5.2.2 Promoting the DR NOAM from Secondary to Primary (Outage)

Procedure 6: Promoting the DR NOAM from Secondary to Primary (Outage) [Site_2]

Step#	Procedure	Description						
This pro	cedure provides instruction	vides instructions on promoting the DR NOAM from Secondary to Primary.						
Check of	Check off ($m{\eta}$) each step as it is completed. Boxes have been provided for this purpose under each step number.							
IF ANY S	STEP IN THIS PROCEDI	JRE FAILS, CONTACT	MY ORACI	_E SUPPOR	T (MC	DS) FOR ASSISTA	NCE.	
1.	 DR NOAM: 1) Access the command prompt (CLI). 2) Log into the server as the "admusr" user. 	Establish an SSH sess msvnc-sds-NO-b login Password: <admusr_j< td=""><td>: admusr</td><td></td><td>R NOA</td><td>AM XMI IP address</td><td>and login as admusr.</td></admusr_j<>	: admusr		R NOA	AM XMI IP address	and login as admusr.	
2.	DR NOAM: Check NOAM Status	Execute this comma \$ ha.mystate			the	server:		
		[admusr@msvnc-sds-l resourceId	NO-D~]\$ N role	a.mystate node	DC	subResources	lastUpdate	
		DbReplication VIP CacdProcessRes PDBA_Process PDBAUDIT_Process PDBRELAY_Process XDS_Process IMPORT_Process EXPORT_Process DPSERVER_Process	Act/Act Act/Act Act/Act Act/Act Act/Act Act/Act Act/Act Act/Act Act/OOS	A3374.144 A3374.144 A3374.144 A3374.144 A3374.144 A3374.144 A3374.144 A3374.144 A3374.144 A3374.144 A3374.144 A3374.144	* * * * * * * * * *	0 0 0 0 0 0 0 0 0 0	180712:064445.775 180712:064445.875 180712:064445.875 180712:064445.876 180712:064445.876 180712:064445.876 180712:064445.878 180712:064445.876 180712:06445.877 180711:062936.051	

Step#	Procedure	Description
3.	DR NOAM: Verify that the current value for "myClusterRole" is "Secondary".	[admusr@mrsvnc-sds-NO-b ~]\$ top.myrole myNodeld=A1103.165 myParentClusters=(A0907) myClusterRole= Secondary myRecognizedPrimary=A0907 myRecognizedSecondary=A1103 [admusr@mrsvnc-sds-NO-b ~]\$
4.	DR NOAM: Using the clusterId of the myRecognizedPrim ary from the previous step, set the clusterId to Secondary. NOTE: The connection timeouts to the Primary NOAM NE (shown in the output to the right) are expected when that NE is network isolated. Under these circumstances, the user should allow several minutes (≈ 7) for this command to complete.	[admusr@mrsvnc-sds-NO-b ~]\$ top.setSecondary A0907 - New Secondary Timestamp: 03/03/17 18:28:48.318 - Updating To A0907.060: rlghnc-sds-NO-a setSecondaryTo(A0907) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A0907.113: rlghnc-sds-QS setSecondaryTo(A0907) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A0907.121: rlghnc-sds-NO-b setSecondaryTo(A0907) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A0907.121: rlghnc-sds-NO-b setSecondaryTo(A0907) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A0907.121: rlghnc-sds-NO-b setSecondaryTo(A0907) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A1103.165: mrsvnc-sds-NO-b - Updating To A1103.165: mrsvnc-sds-NO-b - Updating To A1103.223: mrsvnc-sds-NO-a [admusr@mrsvnc-sds-NO-b ~]\$
5.	DR NOAM: Set the value for "myClusterRole" to "Primary". NOTE: The connection timeouts to the Primary NOAM NE (shown in the output to the right) are expected when that NE is network isolated. Under these circumstances, the user should allow several minutes (≈ 7) for this command to complete.	[admusr@mrsvnc-sds-NO-b ~]\$ top.setPrimary - Using my cluster: A1103 - New Primary Timestamp: 03/03/17 18:35:26.279 - Updating To A0907.060: rlghnc-sds-NO-a setPrimaryTo(A1103) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A0907.113: rlghnc-sds-QS setPrimaryTo(A1103) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A0907.121: rlghnc-sds-NO-b setPrimaryTo(A1103) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A0907.121: rlghnc-sds-NO-b setPrimaryTo(A1103) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A0907.121: rlghnc-sds-NO-b setPrimaryTo(A1103) returned proxy error=28 SOAP 1.2 fault SOAP-ENV:Receiver [no subcode] "Connection timed out" Detail: connect failed in tcp_connect() - Updating To A1103.165: mrsvnc-sds-NO-b - Updating To A1103.223: mrsvnc-sds-NO-a [admusr@mrsvnc-sds-NO-b ~]\$

Step#	Procedure	Description
6.	DR NOAM: Verify that the value for " myClusterRole " is now set to "Primary".	[admusr@mrsvnc-sds-NO-b ~]\$ top.myrole myNodeld=A1103.165 myParentClusters=() myClusterRole= Primary myRecognizedPrimary=A1103 myRecognizedSecondary=A0907 [admusr@mrsvnc-sds-NO-b ~]\$
7.	New Primary NOAM VIP (former DR): 1) Launch an HTML5	Certificate Error: Navigation ×
	compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary	× Image: Security control of the secu
	Active NOAM site. 2) If a Certificate Error is received, click on the link which states	The security certificate presented by this website was issued for a different website's address. The security certificate presented by this website was not issued by a trusted certificate authority. Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.
	"Continue to this website (not recommended)."	We recommend that you close this webpage and do not continue to this website. Image: Continue to this website (not recommended).
8.	New Primary NOAM VIP (former DR): The user should be presented the login screen shown on the right.	Oracle System Login Wed Mar 1 18:53:06 2017 UTC
	Login to the GUI using a User account with Administrator privileges.	Log In Enter your username and password to log in Username: guiadmin Password: •••••• Change password Change password Log In Welcome to the Oracle System Login. This application is designed to work with most modern HTML5 compliant browsers and uses both JavaScript and cookies. Please refer to the Oracle Software Web Browser Support Policy for details. Unauthorized access is prohibited.

Step#	Procedure	Description					
9.	New Primary NOAM VIP (former DR):		tions Diameter S	Signal Router Full Address Re	esolution 8.0.0.	0.0-80.22.1	4 ¥
	The user should be presented the Product Main Menu as shown on the right. Verify that the message shown across the bottom of the panel indicates that the browser is using the "VIP" to connect to the "ACTIVE NETWORK OAM&P".	Main Menu Main Administration Administration	Main Men It c Oracle	U: [Main] This is the user-defin an be modified using the 'General Op' Login Narr Last Login Time: 2 Last Login Time: 2 Last Login IP: Recent Failed L and Java are registered trademarks of names may be trademark ————————————————————————————————————	ied welcome message. tions' item under the 'Adr 2017-03-02 20:15:17 10.154.189.159 .ogin Attempts: 0 of Oracle Corporation an s of their respective own Oracle and/or its affiliate ag disabled Updates e	nd/or its affiliates. Other iers. es. All rights reserved. enabled <u>0 0 5 0</u> <u>Cr Ma Mi Tr</u> Oracle and/or its affiliates. All	righ
10.	New Primary NOAM VIP (former DR):	🖃 🚇 Main Menu		Main Menu: Admi	nistration ->	> General Option	s
	Select	General Options					
	<u>Main Menu</u>	Access Introl	ment General options settings				
	→ Administration → General	Image: Image		-	-		
	Options	tions		Variable	Valu	ue	
	as shown on the right.	💿 🧰 Security Log					
11.	New Primary NOAM VIP (former DR):	Main Menu: Administra	tion -> Gen	eral Options			итс
	 Verify the value for "Durability Administrative State". If executing this procedure in response to a network isolated Primary NOAM (outage), modify the "Durability Administrative State" value to 1 (<i>if</i> necessary) and click the "OK" dialogue button. 	General options settings Durability Administrative State * Disabled Account	1 This accou	unt has been disabled.		Durability Administrative State (1 = NO disk, 2 = NO pair, 3 = NO DRNO). [Default = 1; Range = 1-3] [A value is required.] Message displayed when attempting to login to a disabled account	•
		ds-NO-b (ACTIVE NETWORK OAM&P)	updates enabled]			

Step#	Procedure	Description						
12.	New Primary NOAM VIP (former DR):	🖃 🚊 Main Menu		Main M	lenu: Sta	atus & Man	ane -> S	arver
	1) Select	💿 🧰 Administrat		Filter*	_		age -> O	
	<u>Main Menu</u> → Status & Manage	vents						
	\rightarrow Server	🖃 🧰 Security Log		Server I	Hostname	Network Eler	ment A	ppl State
		🖃 🚖 Status & Ma	-	freeport-	dp-1	SDS_SO_Fre	eport E	nabled
as shown on the right.		Server	Elements	freeport-	dp-2	SDS_SO_Fre	eport E	nabled
		A HAD	Ľ	freeport-	sds-so-a	SDS_SO_Fre	eport E	nabled
	2) Identify the	📄 💽 Databa	se	freeport-	-sds-so-b	SDS_SO_Fre	eport E	nabled
	hostname of the	- 🕅 KPIs		mrsvnc-	sds-NO-a	NO_MRSVN	C EI	nabled
	Primary Active	🛒 Process	es	mrsvnc-s	sds-NO-b	NO_MRSVN	C E	nabled
	NOAM server from the banner message	Files						
	across the bottom of	🕕 🧰 Measureme	ents					
	the browser window.	💽 🧰 Communica	ation Agent					
		🗈 🧰 SDS						
		🧼 🥔 Help 🔄 📑 Legal Notic		Stop	Restart R	eboot NTP S	ync Repor	t
		Z Logout	es					
		Successfully connected						
	New Primary NOAM							
13.	New Primary NOAM VIP (former DR):	Main Menu: St	atus & Manage	-> Server				
13.	VIP (former DR): Based on the	Main Menu: Sta	atus & Manage	-> Server				
13.	VIP (former DR): Based on the information recorded in Step	Filter* ▼				DB	Reporting	Proc
13.	VIP (former DR): Based on the information		atus & Manage Network Element	-> Server Appl State Enabled	Alm	DB	Reporting Status Norm	Proc Norm
13.	VIP (former DR): Based on the information recorded in Step 12 of this procedure	Filter* ▼ Server Hostname	Network Element	Appl State	Alm	Norm	Status	PIUC
13.	VIP (former DR): Based on the information recorded in Step 12 of this procedure Perform the below	Filter* Server Hostname mrsvnc-sds-NO-a	Network Element	Appl State Enabled	Alm Err	Norm	Status Norm	Norm
13.	VIP (former DR): Based on the information recorded in Step 12 of this procedure Perform the below sub-steps on the newly promoted	Filter* Server Hostname mrsvnc-sds-NO-a mrsvnc-sds-NO-b	Network Element NO_MRSVNC NO_MRSVNC	Appl State Enabled Enabled	Alm Err Err	Norm	Status Norm Norm	Norm Norm
3.	VIP (former DR): Based on the information recorded in Step 12 of this procedure Perform the below sub-steps on the newly promoted Primary NOAM	Filter* Server Hostname mrsvnc-sds-NO-a mrsvnc-sds-NO-b nassau-dp-1	Network Element NO_MRSVNC NO_MRSVNC SDS_SO_Nassau	Appl State Enabled Enabled Enabled	Alm Err Norm	Norm Norm Norm Norm	Status Norm Norm Norm	Norm Norm Norm
13.	VIP (former DR): Based on the information recorded in Step 12 of this procedure Perform the below sub-steps on the newly promoted	Filter* Server Hostname mrsvnc-sds-NO-a mrsvnc-sds-NO-b nassau-dp-1 nassau-dp-2	Network Element NO_MRSVNC NO_MRSVNC SDS_SO_Nassau SDS_SO_Nassau	Appl State Enabled Enabled Enabled Enabled	Alm Err Norm Norm	Norm Norm Norm Norm Norm	Status Norm Norm Norm Norm Norm	Norm Norm Norm Norm Norm
13.	VIP (former DR): Based on the information recorded in Step 12 of this procedure Perform the below sub-steps on the newly promoted Primary NOAM <i>"Active"</i> Server	Filter* Server Hostname mrsvnc-sds-NO-a mrsvnc-sds-NO-b nassau-dp-1 nassau-dp-2 nassau-sds-so-a nassau-sds-so-b Stop Restart F	Network Element NO_MRSVNC NO_MRSVNC SDS_SO_Nassau SDS_SO_Nassau SDS_SO_Nassau	Appl State Enabled Enabled Enabled Enabled Enabled	Alm Err Norm Norm War	Norm Norm Norm Norm Norm	Status Norm Norm Norm Norm Norm Norm Norm	Norm Norm Norm Norm
3.	 VIP (former DR): Based on the information recorded in Step 12 of this procedure Perform the below sub-steps on the newly promoted Primary NOAM "Active" Server (Site_2). 1) Select the Server in the right panel 	Filter* Server Hostname mrsvnc-sds-NO-a mrsvnc-sds-NO-b nassau-dp-1 nassau-dp-2 nassau-sds-so-a nassau-sds-so-b Stop Restart R 2 Restart s Message from webpage Are you sure y	Network Element NO_MRSVNC SDS_SO_Nassau SDS_SO_Nassau SDS_SO_Nassau SDS_SO_Nassau SDS_SO_Nassau NTP Sync elected server(s).	Appl State Enabled Enabled Enabled Enabled Enabled Report	Alm Free Norm Norm War	Norm Norm Norm Norm Norm	Status Norm Norm Norm Norm Norm Norm Norm	Norm Norm Norm Norm Norm
3.	 VIP (former DR): Based on the information recorded in Step 12 of this procedure Perform the below sub-steps on the newly promoted Primary NOAM "Active" Server (Site_2). 1) Select the Server in the right panel (highlight will occur). 2) Click the "Restart" dialogue button in the bottom of the right 	Filter* Server Hostname mrsvnc-sds-NO-a mrsvnc-sds-NO-b nassau-dp-1 nassau-dp-2 nassau-sds-so-a nassau-sds-so-b Stop Restart F 2 Restart s Message from webpage	Network Element NO_MRSVNC SDS_SO_Nassau SDS_SO_Nassau SDS_SO_Nassau SDS_SO_Nassau SDS_SO_Nassau SDS_SO_Nassau teboot NTP Sync elected server(s).	Appl State Enabled Enabled Enabled Enabled Enabled Report	Alm Free Norm Norm War	Norm Norm Norm Norm Norm	Status Norm Norm Norm Norm Norm Norm Norm	Norm Norm Norm Norm Norm

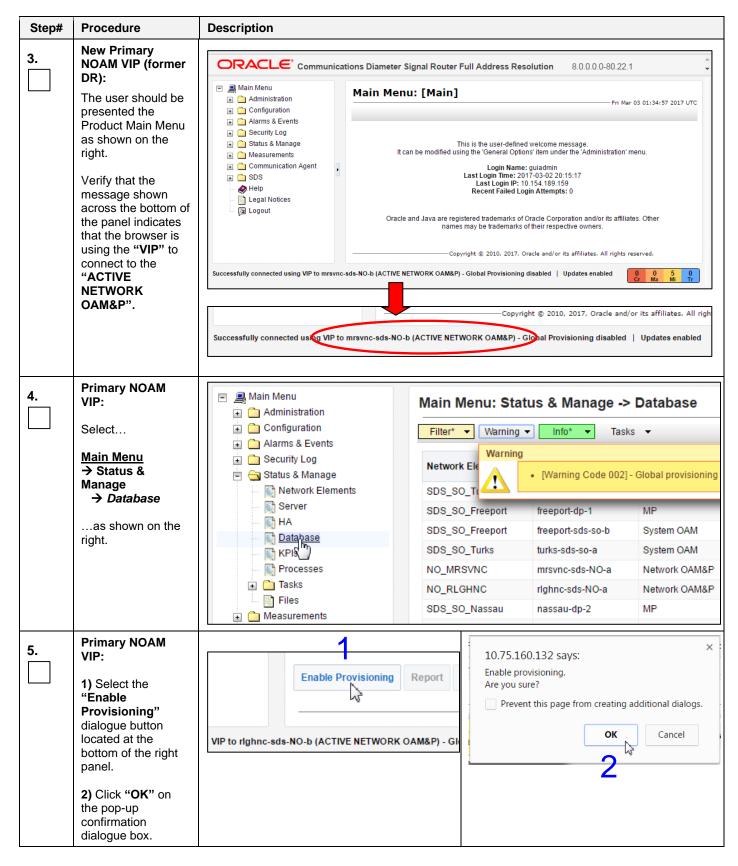
Step#	Procedure	Description
	FOR NEX	SYSTEMS, THIS PROCEDURE HAS BEEN COMPLETED. RETURN TO FIGURE 1 T STEPS. SYSTEMS ONLY, CONTINUE WITH <mark>STEP 14</mark> OF THIS PROCEDURE.
14.	DSR Systems Only (Steps 14 - 19): New Primary NOAM VIP (former DR): Identify the clusterId values for the myRecognizedPrimar y and the myRecognizedSecon dary (e.g. Axxxx).	[admusr@dominica-dr-noam-b ~]\$ top.myrole myNodeld=A0568.058 myParentClusters=() myClusterRole=Primary myRecognizedPrimary=A0568 myRecognizedSecondary=A1667 [admusr@dominica-dr-noam-b ~]\$
15.	New Primary NOAM VIP (former DR): Record the clusterId values for the <i>myRecognizedPrimar</i> <i>y</i> and the <i>myRecognizedSecon</i> <i>dary</i> in the space provided.	myRecognizedPrimary (clusterId) = myRecognizedSecondary (clusterId) =
16.	New Primary NOAM VIP (former DR): Identify which A-Level clusterId (e.g. Axxxx) is located in the "HaClusterResource Cfg" table.	[admusr@dominica-dr-noam-b ~]\$ iqt -p HaClusterResourceCfg cluster resource optional A0568 DSROAM_Proc Yes C0804 DSROAM_Proc Yes C1223 DSROAM_Proc Yes C2346 DSROAM_Proc Yes C3147 DSROAM_Proc Yes C316 DSROAM_Proc Yes [admusr@dominica-dr-noam-b ~]\$
17.	New Primary NOAM VIP (former DR): If the A-Level clusterId located in the "HaClusterResource Cfg" table is the <i>myRecognizedPrimar</i> <i>y</i> value recorded in Step 18 of this procedure, delete the entry as shown to the right. Otherwise, continue to the next step.	Syntax Example: \$ irem HaClusterResourceCfg where "cluster=' <myrecognizedprimary_clusterid>'" [admusr@dominica-dr-noam-b ~]\$ irem HaClusterResourceCfg where "cluster='A0568'" === deleted 1 records === [admusr@dominica-dr-noam-b ~]\$</myrecognizedprimary_clusterid>
18.	New Primary NOAM VIP (former DR): Add an entry to the "HaClusterResource Cfg" table for the <i>myRecognizedSecon</i> <i>dary</i> value recorded in Step 18 of this procedure.	Syntax Example: \$ echo " <myrecognizedsecondary_clusterid> DSROAM_Proc Yes" iload -ha -xun -fcluster - fresource -foptional HaClusterResourceCfg [admusr@dominica-dr-noam-b ~]\$ echo "A1667 DSROAM_Proc Yes" iload -ha -xun - fcluster -fresource -foptional HaClusterResourceCfg [admusr@dominica-dr-noam-b ~]\$</myrecognizedsecondary_clusterid>

Step#	Procedure	Description
19.	New Primary NOAM VIP (former DR): Verify that the "HaClusterResource Cfg" table now displays an entry for the <i>myRecognizedSecon</i> <i>dary</i> value recorded in Step 18 of this procedure.	[admusr@dominica-dr-noam-b ~]\$ iqt -p HaClusterResourceCfg cluster resource optional A1667 DSROAM_Proc Yes C0804 DSROAM_Proc Yes C1223 DSROAM_Proc Yes C2346 DSROAM_Proc Yes C3147 DSROAM_Proc Yes C3316 DSROAM_Proc Yes [admusr@dominica-dr-noam-b ~]\$
	Tł	nis Procedure has been completed. Return to Figure 1.

5.3 Enable Global Provisioning

Procedure 7: Enable Global Provisioning [Site_2]

Step#	Procedure	Description
This pro	cedure provides instructi	ions on "Enable Global Provisioning" at the "newly promoted" Primary NOAM GUI.
Check of	ff (\checkmark) each step as it is co	ompleted. Boxes have been provided for this purpose under each step number.
IF ANY S	STEP IN THIS PROCED	URE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.
1.	New Primary NOAM VIP (former DR): 1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site. 2) If a Certificate Error is received, click on the link which states "Continue to this website (not recommended)."	 Certificate Error: Navigation × There is a problem with this website's security certificate. The security certificate presented by this website was issued for a different website's address. The security certificate presented by this website was not issued by a trusted certificate authority. Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage. Continue to this website (not recommended). More information
2.	New Primary NOAM VIP (former DR): The user should be presented the login screen shown on the right. Login to the GUI using a User account with Administrator privileges.	Coracle System Login Wed Mar 118:53:06 2017 UTC Image: Coracle System Login Image: Coracle System Login Image: Coracle Software Web Browser Support Policy for details. Imauthorized access is prohibited.

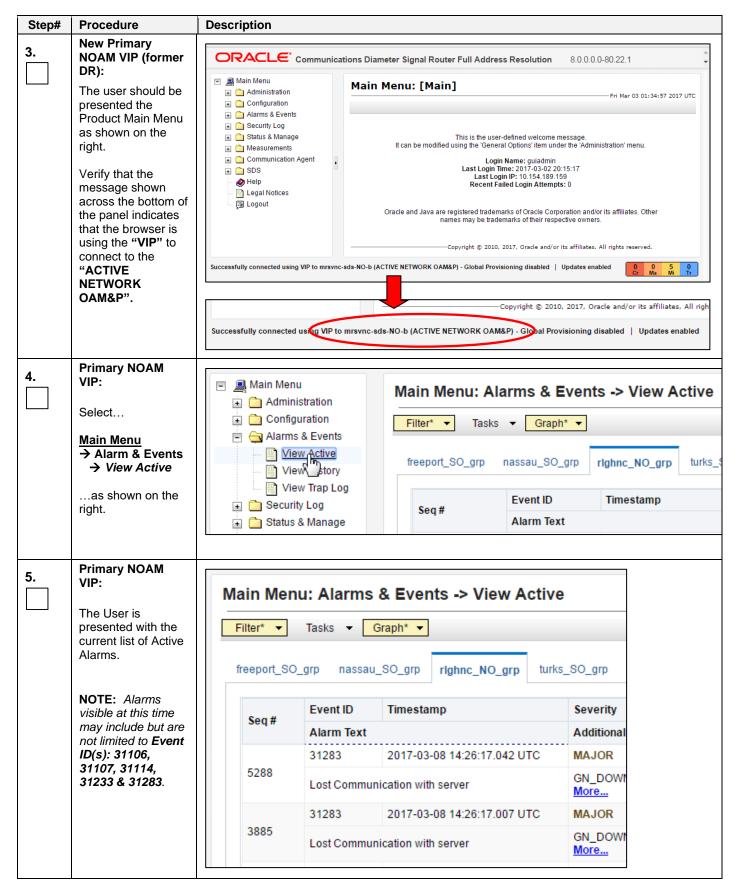


Step#	Procedure	Description		
6. 	Primary NOAM VIP: Verify that the dialogue button located at the bottom of the right panel changes text to "Disable Provisioning". Primary NOAM	Disable Provi VIP to righnc-sds-NO-b (ACTIVE NE Go to Configurations -> 0	TWORK OAM&P) U	
1.	VIP: Enable PDB Relay.	Check the PDB Relay En	abled option box.	
	Main Menu → Configurations → Options	 Main Menu Administration Configuration 	Main Menu: SDS -> Configuratio	n -> Options
	as shown on the right.	Alarms & Events Security Log Status & Manage Measurements Communication Agent SDS SOS	PDB Relay Enabled	I South and the second
		 Options DRMP Connections NAI Hosts Destinations Domain Identifiers Destination Map Routing Entities Subscribers Blacklist 		
		Click Apply.		
		The following confirmation Main Menu: SDS	 -> Configuration -> Op 	tions
		Info 🔻		
		Info	8	Value
		Data comr Allow Connections		V
		This Procedure has been o	completed. Return to Figure 1.	

6. Verifying Alarm Status (after failover)

Procedure 8: Verify Alarm Status (system wide) at the Active Primary NOAM

Step#	Procedure	Description
This pro	cedure provides instruct	ions on verifying alarms at the Primary Active NOAM.
Check o	ff (\checkmark) each step as it is c	ompleted. Boxes have been provided for this purpose under each step number.
IF ANY S		DURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.
1.	New Primary NOAM VIP (former DR): 1) Launch an HTML5 compliant browser and connect to the XMI Virtual IP address (VIP) assigned to Primary Active NOAM site. 2) If a Certificate Error is received, click on the link which states "Continue to this website (not recommended)."	 A type://10.75.160.132/ Certificate Error: Navigation × There is a problem with this website's security certificate. The security certificate presented by this website was issued for a different website's address. The security certificate presented by this website was not issued by a trusted certificate authority. Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server. We recommend that you close this webpage and do not continue to this website. Click here to close this webpage. Continue to this website (not recommended). More information
2.	New Primary NOAM VIP (former DR): The user should be presented the login screen shown on the right. Login to the GUI using a User account with Administrator privileges.	Oracle System Login Wed Mar 118:53:06 2017 UTC Image: Control of the con



Step#	Procedure	Description				
6.	Primary NOAM VIP: Monitor the current list of "Active" alarms until all alarms associated with the Failover have cleared.	Main Mer Filter* -	Tasks 🔻 🗌	& Events -> View A Graph*	ctive turks_SO_g	Jrp
		Sog #	Event ID	Timestamp	Seve	erity
	NOTE: The User should allow at least	Seq #	Alarm Text		Addi	itional
7.	clear before attempting any troubleshooting activities. Primary NOAM			ort (MOS) for assistance v		
	VIP:			within a 15 minute timefrai	-	
	Contact Oracle's Tekelec Customer			cessing My Oracle Support tomer Service.	t (MOS) , for n	nore information
Care Center if needed. NOTE: If alarms fail to clear that are related to features that use SSH key exchange transfer and the user wishes to re-enable them prior to performing a Failover back to original Primary/Secondary states, then the feature may be reconfigured using the pu- feature's initial configuration procedures.						
		Partial I	ist of features th	at use SSH key exchange ba	sed file transf	fer:
			 SDS: prov HLRR: PL DSR: APL 			
	٦	his Procedure I	has been com	pleted. Return to Figure	<mark>: 1</mark> .	

7. Backout Procedures

Step#	Procedure	Description
This pro	cedure provides instruc	tions on reversing Primary/DR NOAM Failover.
Check a	off ($$) each step as it is	completed. Boxes have been provided for this purpose under each step number.
IF ANY	STEP IN THIS PROCE	DURE FAILS, CONTACT MY ORACLE SUPPORT (MOS) FOR ASSISTANCE.
1.	Repeat Procedures in Figure 1.	The User should recognize that the Primary/Secondary NOAM states are now reversed from what they were prior to the previous execution of this procedure!!!
		Insert the Site_1 and Site_2 names in the bottom of Figure 1 according to the real- time state (Primary/Secondary) for each NOAM site and follow the Flowchart.
	1	This Procedure has been completed.

Procedure 9: Reversing Primary/Secondary NOAM Failover (Backout)

APPENDIX A: Accessing My Oracle Support (MOS)

My Oracle Support

My Oracle Support (MOS) (<u>https://support.oracle.com</u>) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at **1-800-223-1711** (toll-free in the US), or call the Oracle Support hotline for your local country from the list at <u>http://www.oracle.com/us/support/contact/index.html</u>. When calling, there are multiple layers of menus selections. Make the selections in the sequence shown below on the Support telephone menu:

- 1. For the first set of menu options, select 2, "New Service Request". You will hear another set of menu options.
- 2. In this set of menu options, select 3, "Hardware, Networking and Solaris Operating System Support". A third set of menu options begins.
- In the third set of options, select 2, "Non-technical issue". Then you will be connected to a live agent who can
 assist you with MOS registration and provide Support Identifiers. Simply mention you are a Tekelec Customer
 new to MOS.

MOS is available 24 hours a day, 7 days a week, and 365 days a year.

Emergency Response

In the event of a critical service situation, emergency response is offered by the CAS main number at **1-800-223-1711** (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at <u>http://www.oracle.com/us/support/contact/index.html</u>. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- · Significant reduction in system capacity or traffic handling capability
- · Loss of the system's ability to perform automatic system reconfiguration
- · Inability to restart a processor or the system
- · Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- · Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.

Locate Product Documentation on the Oracle Help Center Site

Oracle customer documentation is available on the web at the Oracle Help Center (OHC) site, <u>http://docs.oracle.com</u>. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at <u>http://www.adobe.com</u>.

- 1. Access the OHC site at <u>http://docs.oracle.com</u>.
- 2. Click Industries.
- Under the Oracle Communications subheading, click the Oracle Communications documentation link. The Communications Documentation page appears. Most products covered by these documentation sets will appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."
- 4. Click the Product and then the Release Number. A list of the entire documentation set for the selected product and release appears.

To download a file to your location, right-click the PDF link, select **Save target as** (or similar command based on your browser), and save to a local folder.